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14. ABSTRACT

We successfully created the necessary infrastructure and operational relationships to build upon for future phases of this project. We now have a basis for continued programmatic development, which in time may include medical education for military health care professionals as well as distance immersive training for warriors – each at their respective "remote" locations.

The Institute for Health Technology and Transformation (iHT2) Summit was held at Seattle Science Foundation in August of 2010. The Summit focused on telehealth and medicine, specifically for soldiers suffering from Post Traumatic Stress Disorder (PTSD).

15. SUBJECT TERMS

Medical education, distance immersive training, telehealth, immersive computer interfaces and multicasting

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Introduction

The research project involved establishing the necessary digital connectivity among key regional resources and demonstrating that the Seattle Science Foundation can support the remote training activities. The Seattle Science Foundation worked to link healthcare providers, doctors, psychologists, nurses, technicians, engineers, and computer systems specialists at Madigan Army Medical Center (MAMC), MAMC Anderson Simulation Center (ASC) with the Seattle Science Foundation and the University of Washington ISIS through the broadband connectivity provided by the Pacific Northwest Gigapop.

Body

In Phase I of this project, we were tasked with establishing the necessary digital connectivity among key regional resources and then demonstrating that the infrastructure was operational by hosting a medical education seminar at SSF and broadcasting live through our newly established network.

The following three broadband network connections were necessary in order to implement:

1. University of Washington to National Research & Education core at the Westin Building in Seattle, WA to the Seattle Science Foundation (SSF).
2. Westin Building hub to Camp Murray building 20.
3. Camp Murray to Andersen Simulation Center.

The network connections were completed in Q-4 and subsequently, a "Virtual Worlds" conference was planned and executed in August 2010.

Key Research Accomplishments

- Provided funding for Madigan for purchase of equipment necessary to connect the Anderson Simulation Center to the Camp Murray junction of the fiber path.
- Completed the connection between the Westin building and Camp Murray to establish access to the Internet 2 and National Lambda Rail infrastructure.
- Allocated and implemented the fiber pair between the Andersen Simulation Center and Building 20 (Camp Murray).
- Facilitated, broadcasted, and recorded live broadcast of Virtual *Worlds* conference.
- Established protocols for secure connection transmissions.

Reportable Outcomes

We successfully created the necessary infrastructure and operational relationships to build upon for future phases of this project. We now have a basis for continued programmatic development, which in time may include medical education for military health care professionals as well as distance immersive training for warriors – each at their respective "remote" locations.

The Institute for Health Technology and Transformation (iHT2) Summit was held at Seattle Science Foundation in August of 2010. The Summit focused on telehealth and medicine, specifically for soldiers suffering from Post Traumatic Stress Disorder (PTSD).

We broadcast the conference live via Second Life and simulcast it through Scopia and DCO (Defense Connect Online). This conference successfully demonstrated that we accomplished our funding objectives.

The participants were a mix of military doctors, psychiatrists and information technology professionals. 75 participants were at Seattle Science Foundation, 35 participants were on Second Life and more than 110 participated remotely. Topics discussed included using Second Life as a tool for psychiatric therapy, legal aspects of clinical work in Second Life, and remote psychiatric access to warriors. The event was recorded in HD for future viewing.

Conclusion

The primary benefit of this effort was to validate the value of broadband connectivity, immersive computer interfaces and multicasting – specifically, promoting the notion of improving psychological health for military personnel, wherever they may be stationed expeditiously, in real time. The infrastructure is now in place to be used as a resource for medical outreach to improve the quality, safety and efficiency of healthcare for military personnel.

This project initially was challenging in that the Principle Investigator at Seattle Science Foundation resigned, and Colonel Salzman was deployed to Iraq. John Petersen, Chief Medical Officer at Seattle Science Foundation took over as Principle Investigator, and an interim representative was appointed on behalf of Col. Salzman. All parties agreed to continue to move forward.

It is obvious to the investigators that there is value in sharing research and educational resources through a robust broadband network. Point of contact is in real time, training programs have a farther reach, and the quick dissemination of new medical information, techniques and procedures is possible.